

In the Claims

Applicant has submitted a new complete claim set showing marked up claims with insertions indicated by underlining and deletions indicated by strikeouts and/or double bracketing.

Please amend pending claims 1, 3-12, 14, 17, 20, 21, 23, 24 and 26-34 as noted below.

1. (Currently amended) A molecular device ~~having~~ comprising a rectifying function to cause asymmetrical progress of transfer of an excited state or exciton.
2. (Original) The molecular device according to claim 1 wherein the excited state or exciton is formed by light.
3. (Currently amended) The molecular device according to claim 1 wherein the excited state or exciton is injected from outside the molecular device.
4. (Currently amended) The molecular device according to claim 1 comprising at least two molecules or molecule arrays ~~as components thereof~~.
5. (Currently amended) The molecular device according to claim 4 wherein each of said at least two molecules or molecule arrays has a straight or linear shape, and can be excited directly by light or can make an excited state by transfer of excitation energy from an adjacent one of the molecules or molecule arrays.
6. (Currently amended) The molecular device according to claim 5 wherein at least on of the at least two molecules or molecule arrays is one of:
a conjugate polymer in form of a linear chain, a non-conjugate polymer in form of a linear chain, or a linear molecule aggregate composed of the same or different kinds of molecules.

7. (Currently amended) The molecular device according to claim 4 wherein said at least two molecules or molecule arrays have cyclic or elliptic shapes, and can be excited directly by light or can make an excited state by transfer of excitation energy from an adjacent one of the molecules or molecule arrays.

8. (Currently amended) The molecular device according to claim 7 wherein ~~the~~ a cyclic or elliptic molecule and molecule array is one of: a cyclic conjugate polymer, a cyclic non-conjugate polymer, or a cyclic molecule aggregate composed of the same or different kinds of molecules.

9. (Currently amended) The molecular device according to claim 4 wherein one of the molecules or molecule arrays physically or chemically couples with at least another of the molecules or molecule arrays by at least one of: conjugated bond, non-conjugated covalent bond, charge transfer bond, ionic bond, hydrogen bond, stacking by interaction of π electrons, Van der Waals force or an intermediate force thereof.

10. (Currently amended) The molecular device according to claim 9 wherein ~~the~~ a rectifying function is obtained by using irreversible transfer of the excited state or exciton between ~~said~~ at least two molecules or molecule arrays physically or chemically coupled together.

11. (Currently amended) The molecular device according to claim 10 wherein transfer of the excited state or exciton asymmetrically progresses ~~because~~ and said at least two physically or chemically coupled molecules or molecule arrays are not parallel at the joint thereof.

12. (Currently amended) The molecular device according to claim 9 wherein ~~said~~ at least two physically or chemically coupled molecules or molecule arrays couple to form a joint, and the joint exhibits spatial asymmetry at ~~the~~ a junction site and thereby causes asymmetrical progress of transfer of the excited state or exciton.

13. (Original) The molecular device according to claim 4 further comprising a portion where the molecules or molecule arrays are coupled by a resistor device inserted therebetween.

14. (Currently amended) The molecular device according to claim 13 wherein the resistor device is a molecule or a molecule array and couples with ~~the~~ molecules or molecule arrays building the molecular device by covalent bonding.

15. (Original) The molecular device according to claim 13 wherein the molecule or molecule array used as the resistor device is changed in structure by irradiation of an electromagnetic wave.

16. (Original) The molecular device according to claim 13 wherein the molecule or molecule array used as the resistor device is changed in structure by temperature.

17. (Currently amended) The molecular device according to claim 1 further comprising at least one input terminal formed in at least one ~~of the molecules~~ molecule or molecule ~~arrays~~ array.

18. (Original) The molecular device according to claim 17 wherein the input terminal inputs the excited state or exciton by inducing surface plasmon excitation by light.

19. (Original) The molecular device according to claim 17 wherein terminal ends of the molecules or molecule arrays are modified by a dye molecule having predetermined molecular orbital energy.

20. (Currently amended) A molecule array ~~having~~ comprising a rectifying function to cause asymmetrical progress of transfer of an excited state or exciton.

21. (Currently amended) A rectifier device ~~having~~ comprising a rectifying function to cause asymmetrical progress of transfer of an excited state or exciton.

22. (Original) A rectifying method permitting transfer of an excited state or exciton to progress asymmetrically.

23. (Currently amended) A sensor device ~~having~~ comprising:
a rectifying function to cause asymmetrical progress of transfer of an excited state or exciton and
a function to control the rectification property.

24. (Currently amended) The sensor device according to claim 23 further comprising at least two molecules or molecule arrays ~~as components thereof~~.

25. (Original) The sensor device according to claim 24 wherein at least one of said at least two molecules or molecule arrays has an ion recognizing function.

26. (Currently amended) The sensor device according to claim 25 wherein a the rectification property changes depending upon the existence or absence of any ions adhering to ~~the~~ a site having the ion recognizing function.

27. (Currently amended) A switching device ~~having~~ comprising:
a rectifying function to cause asymmetrical progress of transfer of an excited state or exciton and
a function to control the rectification property.

28. (Currently amended) The switching device according to claim 27 further comprising at least two molecules or molecule arrays ~~as components thereof~~.

29. (Currently amended) The switching device according to claim 28 wherein at least one of said two molecules or molecule arrays has an ion recognizing function.

30. (Currently amended) The switching device according to claim 29 wherein ~~the~~ a rectification property changes depending upon the existence or absence of any ions adhering to ~~the~~ a site having the ion recognizing function.

31. (Currently amended) A circuit device comprising a switching device ~~as a component thereof~~, said switching device ~~having~~ comprising:
 a rectifying function to cause asymmetrical progress of transfer of an excited state or exciton and
 a function to control the rectification property.

32. (Currently amended) A logical circuit device comprising a switching device ~~as a component thereof~~, said switching device ~~having~~ comprising:
 a rectifying function to cause asymmetrical progress of transfer of an excited state or exciton and
 a function to control the rectification property.

33. (Currently amended) An operational device comprising a switching device ~~as a component thereof~~, said switching device ~~having~~ comprising:
 a rectifying function to cause asymmetrical progress of transfer of an excited state or exciton and a
 function to control the rectification property.

34. (Currently amended) An information processing device comprising a switching device ~~as a component thereof~~, said switching device ~~having~~ comprising:
 a rectifying function to cause asymmetrical progress of transfer of an excited state or exciton and
 a function to control the rectification property.